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APPLICANT : NIKON CORP;

INVENTOR : ISHIZAWA HITOSHI;

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TITLE : MANUFACTURE OF IMPLANT BODY

ABSTRACT : PURPOSE: To provide an implant body having a favorable suitability to bone tissues, and a large fixture force by heat-treating a metallic titanium core body for crystal control, applying an etching process to form irregularities in a surface, and anode-oxidizing for forming a titanium oxide film on the surface.

CONSTITUTION: A titanium material as a core body of an implant body is heat-treated for about two hours, and crystal control performed for growing crystal grains for a depth of about 800 $\mu$ m in a size of about 200 $\mu$ m on the surface of the titanium material. Next, the titanium material is immersed in a mixed solution of hydrofluoric acid and nitric acid for several minutes, for example, so irregularities of a hole diameter of 100-150 $\mu$ m are formed. Next, an anode oxidation process is applied in a mixed solution of phosphoric acid and sulfuric acid under an applied voltage of about 170V, and a titanium oxide film of a thickness of about 7-8 $\mu$ m is formed along the irregularities on the surface of the titanium material, so sharp edges of titanium grains formed by etching with acids are covered with the thick titanium oxide film to be rounded. The implant body, having a large fixture force and a favorable suitability to bone tissues, can thus be provided.

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